



MM	MM	TTTTTTTTTT	HH	HH	GGGGGGGG	IIIIII	NN	NN	TTTTTTTT
MM	MM	TTTTTTTTTT	HH	HH	GGGGGGGG	IIIIII	NN	NN	TTTTTTTT
MMMM	MMMM	TT	HH	HH	GG	IIIIII	NN	NN	TT
MMMM	MMMM	TT	HH	HH	GG	IIIIII	NN	NN	TT
MM	MM	MM	TT	HH	GG	IIIIII	NNNN	NN	TT
MM	MM	MM	TT	HH	GG	IIIIII	NNNN	NN	TT
MM	MM	MM	TT	HHHHHHHHHH	GG	IIIIII	NN	NN	TT
MM	MM	MM	TT	HHHHHHHHHH	GG	IIIIII	NN	NN	TT
MM	MM	MM	TT	HH	GG	GGGGGG	NN	NNNN	TT
MM	MM	MM	TT	HH	GG	GGGGGG	NN	NNNN	TT
MM	MM	MM	TT	HH	GG	GG	NN	NN	TT
MM	MM	MM	TT	HH	GG	GG	NN	NN	TT
MM	MM	TT	HH	HH	GGGGGG	IIIIII	NN	NN	TT
MM	MM	TT	HH	HH	GGGGGG	IIIIII	NN	NN	TT
LL	LL	IIIIII	SSSSSSSS						
LL	LL	IIIIII	SSSSSSSS						
LL	LL	IIIIII	SS						
LL	LL	IIIIII	SS						
LL	LL	IIIIII	SSSSSS						
LL	LL	IIIIII	SSSSSS						
LL	LL	IIIIII	SS						
LL	LL	IIIIII	SS						
LL	LL	IIIIII	SS						
LLLLLLLL	LLLLLLLL	IIIIII	SSSSSSSS						
LLLLLLLL	LLLLLLLL	IIIIII	SSSSSSSS						

(2)	50	HISTORY	; Detailed Current Edit History
(3)	62	DECLARATIONS	
(4)	93	MTH\$GINT	G to G truncation
(5)	137	MTH\$GINT_R4	JSB entry point

0000 1 .TITLE MTH\$GINT - FLOATING TRUNCATION  
0000 2 .IDENT /1-004/ ; File: MTHGINT.MAR Edit: JAW1004  
0000 3  
0000 4  
0000 5 \*\*\*\*\*  
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0000 24 \*  
0000 25 \*  
0000 26 \*\*\*\*\*  
0000 27  
0000 28  
0000 29 FACILITY: MATH LIBRARY  
0000 30 ++  
0000 31 ABSTRACT:  
0000 32 This module contains routine MTH\$GINT:  
0000 33 Return truncated G floating argument.  
0000 34  
0000 35 --  
0000 36  
0000 37  
0000 38 VERSION: 1  
0000 39  
0000 40 HISTORY:  
0000 41  
0000 42 AUTHOR:  
0000 43 Steven B. Lionel, 18-Jan-79: Version 1  
0000 44  
0000 45 MODIFIED BY:  
0000 46  
0000 47  
0000 48 :

0000 50 .SBTTL HISTORY ; Detailed Current Edit History  
0000 51  
0000 52  
0000 53 : Edit History for Version 1 of MTH\$GINT  
0000 54 :  
0000 55 : 1-001 - Original. SBL 18-Jan-79  
0000 56 : 1-002 - Add a JSB entry point. JBS 16-AUG-1979  
0000 57 : 1-003 - Change JSB entry to \_R4 to reflect code that disables IV.  
0000 58 : SBL 26-Sept-1979  
0000 59 : 1-004 - Fix final operand of EMODG in MTH\$GINT\_R4 (should be R2).  
0000 60 : Also improve the next two instructions. JAW 26-Nov-1980

0000 62 .SBttl DECLARATIONS  
0000 63  
0000 64 :  
0000 65 : INCLUDE FILES:  
0000 66 : NONE  
0000 67 :  
0000 68 :  
0000 69 :  
0000 70 : EXTERNAL SYMBOLS:  
0000 71 : NONE  
0000 72 :  
0000 73 :  
0000 74 :  
0000 75 : MACROS:  
0000 76 : \$PSLDEF ; PSL macros  
0000 77 :  
0000 78 :  
0000 79 :  
0000 80 : PSECT DECLARATIONS:  
00000000 81 : .PSECT \_MTH\$CODE PIC, SHR, LONG, EXE, NOWRT  
0000 82 :  
0000 83 :  
0000 84 : EQUATED SYMBOLS:  
0000 85 : NONE  
0000 86 :  
0000 87 :  
0000 88 :  
0000 89 : OWN STORAGE:  
0000 90 : NONE  
0000 91 :

0000 93 .SBTTL MTH\$INT G to G truncation  
 0000 94  
 0000 95 ++  
 0000 96 FUNCTIONAL DESCRIPTION:  
 0000 97  
 0000 98 Returns the argument with all zeroes to the right of the radix  
 0000 99 point.  
 0000 100  
 0000 101 CALLING SEQUENCE:  
 0000 102  
 0000 103 Truncation.wg.v = MTH\$INT (arg.rg.r)  
 0000 104  
 0000 105 INPUT PARAMETERS:  
 0000 106  
 0000 107 The one argument is a G floating-point value  
 0000 108 and is call-by-reference.  
 0000 109  
 0000 110 IMPLICIT INPUTS:  
 0000 111  
 0000 112 NONE  
 0000 113  
 0000 114 OUTPUT PARAMETERS:  
 0000 115  
 0000 116 NONE  
 0000 117  
 0000 118 IMPLICIT OUTPUTS:  
 0000 119  
 0000 120 NONE  
 0000 121  
 0000 122 COMPLETION CODES:  
 0000 123  
 0000 124 NONE  
 0000 125  
 0000 126 SIDE EFFECTS:  
 0000 127 Reserved Operand exception can occur.  
 0000 128  
 0000 129  
 0000 130 --  
 0000 131 .ENTRY MTH\$INT, ^M<>  
 0002 132 EMODG @4(AP), #0, #1, R0, R0 ; R0/R1 = fraction\_part(arg)  
 000A 133 SUBG3 R0, @4(AP), R0 ; R0/R1 = integer\_part(arg)  
 0010 134 RET  
 0011 135

50 50 08 00 04 BC 54FD  
 50 04 BC 50 43FD  
 04

0000  
 0002  
 000A  
 0010  
 0011

0000  
 131  
 132  
 133  
 134  
 135

0011 137 .SBTTL MTH\$GINT\_R4 JSB entry point  
 0011 138  
 0011 139 :++  
 0011 140 : FUNCTIONAL DESCRIPTION:  
 0011 141  
 0011 142 Returns the argument with all zeroes to the right of the radix  
 0011 143 point.  
 0011 144 : CALLING SEQUENCE:  
 0011 145  
 0011 146  
 0011 147 Truncation.wg.v = MTH\$GINT\_R4 (arg.rg.v)  
 0011 148  
 0011 149 : INPUT PARAMETERS:  
 0011 150  
 0011 151 The one argument is a G floating-point value  
 0011 152 and is call-by-value.  
 0011 153 : IMPLICIT INPUTS:  
 0011 154  
 0011 155  
 0011 156 : NONE  
 0011 157  
 0011 158 : OUTPUT PARAMETERS:  
 0011 159  
 0011 160 : NONE  
 0011 161  
 0011 162 : IMPLICIT OUTPUTS:  
 0011 163  
 0011 164 : NONE  
 0011 165  
 0011 166 : COMPLETION CODES:  
 0011 167  
 0011 168 : NONE  
 0011 169  
 0011 170 : SIDE EFFECTS:  
 0011 171 Reserved Operand exception can occur.  
 0011 172  
 0011 173  
 0011 174 :--  
 0011 175 MTH\$GINT\_R4:: : Argument in R0/R1  
 0011 176 MOVPSL R4 : Save PSL  
 0013 177 BICPSW #PSL\$M\_IV : Clear IV  
 0015 178 EMODG R0, #0, #1, R2, R2 : R2/R3 = fraction\_part(arg)  
 001C 179 SUBG2 R2, R0 : R0/R1 = integer\_part(arg)  
 0020 180 BICW #^C<PSL\$M\_IV>, R4 : Clear all but IV in saved PSW  
 0025 181 BISPSW R4 : Restore IV to original state  
 0027 182 RSB : Return to caller  
 0028 183  
 0028 184 .END

52	52	08	00	54 DC	0011	175 MTH\$GINT_R4::	: Argument in R0/R1
				20 B9	0013	176 MOVPSL R4	: Save PSL
				50 54FD	0015	177 BICPSW #PSL\$M_IV	: Clear IV
				52 42FD	001C	178 EMODG R0, #0, #1, R2, R2	: R2/R3 = fraction_part(arg)
				8F AA	0020	179 SUBG2 R2, R0	: R0/R1 = integer_part(arg)
				54 B8	0025	180 BICW #^C<PSL\$M_IV>, R4	: Clear all but IV in saved PSW
				05	0027	181 BISPSW R4	: Restore IV to original state
					0028	182 RSB	: Return to caller
					0028	183	
					0028	184	

## MTH\$GINT Symbol table

### - FLOATING TRUNCATION

1 13

16-SEP-1984 01:27:48 VAX/VMS Macro V04-00  
6-SEP-1984 11:23:42 [MTHRTL.SRC]MTHGINT.MAR:1

Page 6 (5)

MTHSGINT 00000000 RG 02  
MTHSGINT\_R4 00000011 RG 02  
PSLSM\_IV-IV = 00000020

! Psect synopsis !

PSECT name

**Allocation PSECT No. Attributes**

ABS . 00000000 ( 0.) 00 ( 0.) NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE  
\$ABSS 00000000 ( 0.) 01 ( 1.) NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE  
\_MTH\$CODE 00000028 ( 40.) 02 ( 2.) PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

## Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	32	00:00:00.07	00:00:00.55
Command processing	104	00:00:00.56	00:00:03.12
Pass 1	113	00:00:01.02	00:00:04.42
Symbol table sort	0	00:00:00.02	00:00:00.07
Pass 2	44	00:00:00.48	00:00:01.67
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	3	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	300	00:00:02.18	00:00:09.88

The working set limit was 1050 pages.

4025 bytes (8 pages) of virtual memory were used to buffer the intermediate code.

There were 10 pages of symbol table space allocated to hold 41 non-local and 0 local symbols.

There were 10 pages of symbol table space allocated to hold 41 non-total and 184 source lines were read in Pass 1, producing 13 object records in Pass 2.

184 source lines were read in Pass 1, producing 15 objects.  
8 pages of virtual memory were used to define 7 macros.

! Macro li

### Macro Library name

\$255\$DUA28:[SYSLIB]STARLET.MLB:2

98 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

**MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS\$:MTHGINT/OBJ=OBJ\$:MTHGINT MSRC\$:MTHGINT/UPDATE=(ENH\$:MTHGINT)**

0260 AH-BT13A-SE  
VAX/VMS V4.0

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